

RELATIONSHIP BETWEEN PSYCHIATRY AND DERMATOLOGY: A GUIDE FOR DERMATOLOGY CLINICIANS TO IDENTIFY COMMON PSYCHIATRIC CONDITIONS THAT CAUSE SKIN MANIFESTATIONS

Harika Echuri, Bs*¹, Jalal Maghfour, Md*²

*^{1,2}Tulane University School Of Medicine, New Orleans, Louisiana, United States.

ABSTRACT

The skin and the nervous system develop together, and remain interconnected throughout life. There are many dermatological diagnoses that lead to psychiatric symptoms. In contrast, there are many primary psychiatric disorders that present with dermatologic symptoms. In the subset of 'psychiatric disorders with dermatological symptoms,' there is no true skin condition, but rather it is self-inflicted due to the underlying psychiatric disorder. This review discusses six primary psychiatric disorders leading to dermatologic diseases: body dysmorphic disorder, delusion of parasitosis, dermatitis artefacta, neurotic excoriations, trichotillomania, and psychogenic purpura. Identification and description of the psychiatric disease, dermatologic patient presentation, and management of the disease (including cognitive and therapeutic intervention) will be discussed.

I. INTRODUCTION

Body dysmorphic disorder

Patients with body dysmorphic disorder (BDD) suffer from excessive concerns about one's appearance.^{1,2} The severity of concern ranges from obsessional worry to frank delusions, and psychiatric conditions such as anxiety and depression are prominent parts of the disease.² As a part of their illness, these patients perform repetitive behaviors such as excessive grooming or skin picking.¹ The most common aspect of appearance impacted is the face/head, particularly the skin, nose and hair, and therefore, dermatology providers are commonly consulted by patients with BDD because the issues are so noticeable.¹⁻³

Pathologic skin picking is noted in 26 to 45% of BDD patients, and in 36% of patients, the perception of abnormality is truly delusional.^{2,4} It is most common in patients whose skin is not inherently smooth, such as patients who have acne or keratosis pilaris. Some patients pick incessantly even if their skin is normal, leaving numerous scars, scratch marks, and ulcerations.^{2,5} Patients know that picking their skin can make it worse, and so they have feelings of guilt and shame.^{2,4,6,7} Hair concerns are also common in patients with BDD, the most common concern being a fear of hair loss. This fear causes some patients to undergo hair transplantation and other cosmetic procedures, and use medications such as finasteride and minoxidil for slight evidence of hair loss.⁴ Hair plucking is also a common concern, and it can lead to complications such as disfigurement, infection, and scarring.⁴

The treatment of choice in BDD is cognitive behavioral therapy (CBT) and serotonin reuptake inhibitor (SRI) medication.^{1,2} It is important to let patients know that SRIs take time to work and it is required of them to take the medications for certain amount of time before determining their efficacy.^{2,8} It is important to be empathetic with the patient regarding their condition, because otherwise patients might feel misunderstood, frustrated, and angry.^{2,6} Many patients with BDD are found to have entertained suicidal thoughts at some point in their lives, and successful suicides have been reported.^{2,4,5,9} It is helpful to let the patient know that there are effective treatment options available. Application of tar emulsion and a moisturizing cream, followed by twice-daily warm saline or Clorox compresses is an effective approach.² It is often combined with frequent reminders to not touch the area.² Other medications such as minoxidil, isotretinoin, and dermabrasion have also been provided.⁴

Delusion of parasitosis

In delusion of parasitosis (DOP), the patient experiences a fixed, false belief that they have an infection with living organisms, such as parasites, worms, mites, bacteria, fungus and many others.¹⁰ For example, patients may perceive parasites crawling or burrowing into their skin and when asked about it, they are often resistant to reason or alter their thinking about their delusional belief.^{10,11} DOP is closely related to Morgellons disease,

in which individuals feel they have fibers coming out of their skin.¹¹ There are two forms of DOP: primary and secondary. In the primary form, only the symptoms of delusions are present.^{10,12} In the secondary form, the delusions occur along with other psychiatric disorders, such as schizophrenia or secondary to drug abuse or medical illness.¹⁰⁻¹³ Most commonly, DOP present as a secondary form that occur along a primary psychiatric disorder.^{10,11,13}

Patients typically present to the provider with bruises, nodular pruritus, ulcers, or excoriations and scars from previous attempts to remove “organisms” using various objects or their fingernails.^{10,11,14} Patients may have had previous trials of topical dermatologic medications and/or antibiotics in attempts to treat the illness, and may also present with irritant dermatitis.^{10,11}

Once a patient is diagnosed, it is important to build a strong rapport with the patient by taking the time to listen and be empathetic.¹⁰ For instance, taking a neutral approach by stating that there are no organisms visible to the practitioner at this time but that they may have been present before.^{10,14} It is important not to dismiss the patient’s complaint, but also not to further strengthen the delusion that is already present.^{10,14} First generation antipsychotics were widely used in the treatment of DOP in the past but are no longer recommended as a first-line treatment due to adverse side effects.^{10,14} Second generation antipsychotics are recommended, such as quetiapine, olanzapine, risperidone, and aripiprazole.¹⁰ Newer antipsychotics such as lurasidone, paliperidone, and brexpiprazole have less side effects but there is no significant evidence to their efficacy.¹⁰ Evidence suggests that there is an equal rate of remission with both typical and atypical antipsychotics of 60-100%.¹¹ Other agents such as opioids can be used, which improve symptoms of pruritus and formication.¹⁰

Dermatitis artefacta

In dermatitis artefacta (DA), patients self-inflict skin lesions intentionally when faced with psychological or emotional stress.¹⁵ It is difficult to diagnose DA as patients typically deny the self-inflicted nature of the disease, and they often dissociate while they self-abuse, which requires a high index of suspicion to diagnose the disease.¹⁵ There is a range of precipitating factors, from simple anxiety to personality disorders, such as obsessions, compulsions and psychotic disturbances.^{15,16} The condition tends to wax and wane depending on the psychosocial circumstances in the patient’s life, and the skin lesions represent a form of nonverbal communication as patients use it to obtain attention and fulfill their emotional needs.¹⁵

DA characteristically presents with sharp geometric borders surrounded by normal skin, and lesions may be produced by a variety of means, including fingernails, sharp or blunt objects, cigarettes and chemicals.^{15,17} Patients can also present with chronic dermatitis because recurrent irritation causes inflammation, pruritus and lichenification of the skin, leading to further self-trauma.^{15,18} Histological features include features of acute inflammation, and areas of necrosis along with other areas of healing and fibrocystic reaction.¹⁵

Practitioners should approach treatment options sensitively, because patients might react with renewed self-mutilation. For instance, psychiatric referral can be interpreted as a rejection by the patient and it can intensify the self-mutilation.^{15,18} SSRIs and CBT are the mainstay of treatment.^{15,19} Antipsychotics may be helpful in certain situations, and in addition, appropriate referral to self-help groups and self-abuse centers is an important adjunctive treatment.¹⁵ Dermatological skin care with topical antibiotics, emollients, and occlusive dressing is also helpful to the patients.¹⁹

Neurotic excoriations

Neurotic excoriation (psychogenic excoriation, skin picking, or dermatillomania) (NE) is characterized by an irresistible urge to scratch and pick healthy skin, which leads to self-inflicted lesions.²⁰⁻²² Psychological stress can give rise to and exacerbate the symptoms of itching, scratching and picking.²⁰ Self-mutilative action continues for up to several hours until pain or bleeding develops, and skin-picking behavior is a way to maintain emotional stability in patients with NE.²⁰ Depression, anxiety and OCD are the most common psychiatric disorders leading to NE.^{20,22} It has also been associated with social stressors, such as unemployment, financial loss and marital hardships.²²

Excoriations in NE appear in a specific clinical distribution in areas that are easily reachable to the patient. The “butterfly sign” is a characteristic feature, as the areas where the patient cannot reach resemble the shape of butterfly wings.²² The excoriations appear as erosions, crusting and scabbing; hypopigmented or

hyperpigmented scars may also be evident.²² When patients have lesions localized to the face, the disorder is called acne excoriée.^{22,23}

Dermatology and psychiatry providers can also work together to investigate the causes leading to NE in a patient.^{20,24} Patients will then have an opportunity to talk about the specific events and possibly start psychotherapy, which has shown to be effective in the treatment of many psychodermatological conditions.^{20,24} Along similar lines, non-pharmacologic treatment options include CBT, behavior modification, and psychodynamic psychotherapy.²² In order for non-pharmacologic treatment to be effective, the patient must be willing to accept the psychiatric nature of the condition before being referred to therapy.²²

The first-line pharmacologic treatment for NE depends on the underlying psychotic diagnosis. SSRIs may be used as first-line treatment, as they can reduce depressive and compulsive symptoms if these were the underlying psychiatric problem.^{22,23,25} Benzodiazepines can be used for short-term treatment when an acute social stressor or comorbid anxiety is involved.²² Treatment of pruritus is key for the dermatological management of the disease; doxepin 5% cream, or a menthol or phenol containing lotion with an emollient base can be used.²² Oral antihistamines such as doxepin or hydroxyzine also improve pruritus.^{22,23} Cool compresses may also be used to provide hydration and soothe the skin.²² If there are any infected lesions, topical antibiotic such as mupirocin 2% ointment or oral antibiotics such as cephalexin may be administered.²²

Trichotillomania

Trichotillomania (TTM) is characterized by repetitive pulling of one's own hair, which results in marked hair loss and functional impairment.²⁶⁻³¹ Although it is a psychiatric condition, patients initially present to a dermatology provider because they are often unaware of their self-induced hair loss.²⁷ The hair pulling or hair loss is not attributable to another medical condition, however, patients can experience medical complications such as skin irritation, infection and repetitive-use hand injuries.²⁷⁻²⁹ Some patients ingest the hairs after pulling, which increases GI complications such as trichobezoars.²⁹ Comorbid psychiatric disorders are present in patients with TTM such as anxiety, mood, substance use, and personality disorders.²⁹

Patients with TTM often present with patches of incomplete hair loss and different hair lengths, some with blunt, some with tapered ends, and others can present as black dots at the surface of the scalp.²⁷ There is no inflammation or scaling, but excoriations may be noted.²⁷ A useful diagnostic clue is that the affected area often presents with an unusual shape.²⁷ The lower occiput area is difficult to reach for patients because it is more tender and difficult to reach; it is known as tonsure TTM, or the "Friar Tuck" pattern.²⁷ Areas other than the scalp can be involved such as eyebrows, eyelashes, and pubic hairs.²⁷

Habit reversal therapy is the first-line psychotherapy and has shown to have the highest rate of resolution; it trains patients to become alert to their triggers and overcome barriers to prevent the behavior from occurring again.^{27,28, 30} TTM is a chronic waxing and waning condition, and patients are often encouraged to learn from their relapses rather than fall into a pattern of self-denigration.²⁷ CBT can also be used. In a double-blinded placebo controlled study, patients receiving CBT showed statistically significant improvement in hair-pulling behaviors and symptoms over clomipramine and placebo.²⁷

In terms of pharmacologic options, there are no options that are accepted as first-line treatment.^{27,28,30,31} SSRIs and clomipramine are considered first-line in TTM, probably due to the high rate of comorbidity that exists with obsessive-compulsive and related disorders.³² Clomipramine has a particular tricyclic profile that makes it much more similar to SSRIs and but its effectiveness in TTM is yet to be proven.³² Other agents that might be beneficial for TTM include N-acetylcysteine (NAC), antipsychotic medications, and cannabinoid agonists.²⁸ There are also adjunctive therapies used after initial intervention has decreased hair pulling. Topical steroids have been used in patients who complain their primary urge to pull stems due to pruritus, and capsaicin cream has been used to enhance awareness of the scalp.²⁷

Psychogenic purpura

Psychogenic purpura, also known as Gardner-Diamond syndrome (GDS) or autoerythrocyte sensitization syndrome or painful bruising syndrome, is an extremely rare cutaneous condition typically noted in women with psychiatric comorbidity.³³⁻³⁶ It is known to be an autoimmune vasculopathy with sensitization to a component of erythrocyte membrane (phosphatidylserine).³⁵ It is unclear how stress influences the physiological processes and changes the immune reactivity that leads to the formation of erythrocyte

autoantibodies.³⁶ Local tingling and burning sensation often occurs a few hours prior to the appearance of symptoms.³⁴ Psychogenic purpura is often associated with certain psychiatric conditions, and the lesions generally follow physical trauma or emotional stress.³³⁻³⁵

Psychogenic purpura manifests with development of painful edematous skin lesions (isolated or multiple), predominantly in the extremities progressing to ecchymosis.³³⁻³⁵ Bleeding can also occur from the nose, gastrointestinal organs, kidneys, and uterus.³⁵ Cutaneous lesions are preceded by burning, itching and a stinging sensation. Lesions appear as painful edematous pink or red plaques of variable sizes, and after couple of hours, the lesions may evolve into bluish ecchymoses with a yellowish hue.^{33,35} Lesions eventually disappear completely within a week.³³ There are also associated symptoms in addition to cutaneous lesions, which include fever, joint pain, headache, dizziness, and other organ hemorrhages.^{33,34} The diagnosis is ultimately made with a medical and psychiatric history, and excluding other causes such as vasculitis.³⁶

There is no specific treatment for psychogenic purpura, and the disease usually follows an irregular, intermittent course. Symptomatic therapy with antihistamines, corticosteroids, antidepressants and hormones has proven to be beneficial in some cases.^{33,36} Psychiatric treatment (such as antidepressants and CBT) has been proven to be effective and.³⁷ For example, an adolescent who had psychogenic purpura due to sexual abuse, the cessation of the sexual abuse and antidepressant therapy with escitalopram treated both the psychogenic purpura and depression.³⁵

II. CONCLUSION

Psychodermatologic disorders combine both the mind and skin, and certain primary psychiatric disorders result in self-induced cutaneous manifestations. It is important to understand the psychological and social factors, in addition to the primary dermatologic factors, in the optimal management of psychodermatologic disorders. The treatment to these disorders should include a multidisciplinary approach, involving the dermatology and psychiatry providers. Therefore, it is important for providers to be aware of certain diagnostic procedures and management of psychiatric disorders, which sometimes coexist with skin disease.

III. REFERENCES

- [1] Singh, A. R., & Veale, D. (2019). Understanding and treating body dysmorphic disorder. *Indian journal of psychiatry*, 61(Suppl 1), S131-S135. https://doi.org/10.4103/psychiatry.IndianJPsychiatry_528_18
- [2] Koblenzer C. S. (2017). Body dysmorphic disorder in the dermatology patient. *Clinics in dermatology*, 35(3), 298-301. <https://doi.org/10.1016/j.clindermatol.2017.01.002>
- [3] Conrado, L. A., Hounie, A. G., Diniz, J. B., Fossaluza, V., Torres, A. R., Miguel, E. C., & Rivitti, E. A. (2010). Body dysmorphic disorder among dermatologic patients: Prevalence and clinical features. *Journal of the American Academy of Dermatology*, 63(2), 235-243. <https://doi.org/10.1016/j.jaad.2009.09.017>
- [4] Castle, D. J., Phillips, K. A., & Dufresne, R. G., Jr (2004). Body dysmorphic disorder and cosmetic dermatology: more than skin deep. *Journal of cosmetic dermatology*, 3(2), 99-103. <https://doi.org/10.1111/j.1473-2130.2004.00105.x>
- [5] Conrado, L. A., Hounie, A. G., Diniz, J. B., Fossaluza, V., Torres, A. R., Miguel, E. C., & Rivitti, E. A. (2010). Body dysmorphic disorder among dermatologic patients: Prevalence and clinical features. *Journal of the American Academy of Dermatology*, 63(2), 235-243. <https://doi.org/10.1016/j.jaad.2009.09.017>
- [6] Mufaddel, A., Osman, O. T., Almugaddam, F., & Jafferany, M. (2013). A review of body dysmorphic disorder and its presentation in different clinical settings. *The primary care companion for CNS disorders*, 15(4), PCC.12r01464. <https://doi.org/10.4088/PCC.12r01464>
- [7] Bjornsson, A. S., Didie, E. R., & Phillips, K. A. (2010). Body dysmorphic disorder. *Dialogues in clinical neuroscience*, 12(2), 221-232. <https://doi.org/10.31887/DCNS.2010.12.2/abjornsson>
- [8] Phillips, K. A., Pagano, M. E., & Menard, W. (2006). Pharmacotherapy for body dysmorphic disorder: treatment received and illness severity. *Annals of clinical psychiatry: official journal of the American Academy of Clinical Psychiatrists*, 18(4), 251-257. <https://doi.org/10.1080/10401230600948464>
- [9] Phillips KA. Suicidality in Body Dysmorphic Disorder. *Prim psychiatry*. 2007;14(12):58-66.
- [10] Ansari MN, Bragg BN. Delusions Of Parasitosis. [Updated 2021 May 25]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing;2021 Jan-.

- [11] Prakash J, Shashikumar R, Bhat PS, Srivastava K, Nath S, Rajendran A. Delusional parasitosis: Worms of the mind. *Ind Psychiatry J*. 2012;21(1):72-74.
- [12] Freinhar JP. Delusions of parasitosis. *Psychosomatics*. 1984;25(1):47-53.
- [13] Driscoll MS, Rothe MJ, Grant-Kels JM, Hale MS. Delusional parasitosis: a dermatologic, psychiatric, and pharmacologic approach. *J Am Acad Dermatol*. 1993;29(6):1023-1033.
- [14] Lyell A. The Michelson Lecture. Delusions of parasitosis. *Br J Dermatol*. 1983;108(4):485-499.
- [15] Chandran V, Kurien G. Dermatitis Artefacta [Updated 2021 Jul 17]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2021 Jan-.
- [16] Choudhary SV, Khaikar P, Singh A, Gupta S. Dermatitis artefacta: keloids and foreign body granuloma due to overvalued ideation of acupuncture. *Indian J Dermatol Venereol Leprol*. 2009;75(6):606-608.
- [17] Gupta MA, Gupta AK, Haberman HF. The self-inflicted dermatoses: a critical review. *Gen Hosp Psychiatry*. 1987;9(1):45-52.
- [18] Murray AT, Goble R, Sutton GA. Dermatitis artefacta presenting as a basal cell carcinoma--an important clinical sign missed. *Br J Ophthalmol*. 1998;82(1):97.
- [19] Saha A, Seth J, Gorai S, Bindal A. Dermatitis Artefacta: A Review of Five Cases: A Diagnostic and Therapeutic Challenge. *Indian J Dermatol*. 2015;60(6):613-615.
- [20] Yalçın M, Tellioglu E, Yildirim DU, Savrun BM, Özmen M, Aydemir EH. Psychiatric Features in Neurotic Excoriation Patients: The Role of Childhood Trauma. *Noro Psikiyatrs Ars*. 2015;52(4):336-341.
- [21] Fruensgaard K. Psychotherapy and neurotic excoriations. *Int J Dermatol*. 1991;30(4):262-265.
- [22] Wong JW, Nguyen TV, Koo JY. Primary psychiatric conditions: dermatitis artefacta, trichotillomania and neurotic excoriations. *Indian J Dermatol*. 2013;58(1):44-48.
- [23] Cyr PR, Dreher GK. Neurotic excoriations. *Am Fam Physician*. 2001;64(12):1981-1984.
- [24] Misery L, Chastaing M, Touboul S, et al. Psychogenic skin excoriations: diagnostic criteria, semiological analysis and psychiatric profiles. *Acta Derm Venereol*. 2012;92(4):416-418.
- [25] Kalivas J, Kalivas L, Gilman D. Sertraline in the Treatment of Neurotic Excoriations and Related Disorders. *Arch Dermatol*. 1996;132(5):589-590
- [26] Parakh P, Srivastava M. The many faces of trichotillomania. *Int J Trichology*. 2010;2(1):50-52.
- [27] Pereyra AD, Saadabadi A. Trichotillomania. [Updated 2021 Jul 4]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2021 Jan-.
- [28] Grant JE, Chamberlain SR. Trichotillomania. *Am J Psychiatry*. 2016;173(9):868-874.
- [29] Franklin ME, Zgrabbe K, Benavides KL. Trichotillomania and its treatment: a review and recommendations. *Expert Rev Neurother*. 2011;11(8):1165-1174. doi:10.1586/ern.11.93
- [30] Huynh M, Gavino AC, Magid M. Trichotillomania. *Semin Cutan Med Surg*. 2013;32(2):88-94.
- [31] Rothbart R, Amos T, Siegfried N, et al. Pharmacotherapy for trichotillomania. *Cochrane Database Syst Rev*. 2013;(11):CD007662. Published 2013 Nov 8.
- [32] Sani G, Gualtieri I, Paolini M, et al. Drug Treatment of Trichotillomania (Hair-Pulling Disorder), Excoriation (Skin-picking) Disorder, and Nail-biting (Onychophagia). *Curr Neuropharmacol*. 2019;17(8):775-786.
- [33] Jafferany M, Bhattacharya G. Psychogenic Purpura (Gardner-Diamond Syndrome). *Prim Care Companion CNS Disord*. 2015;17(1):10.4088/PCC.14br01697. Published 2015 Jan 22.
- [34] Sarkar S, Ghosh SK, Bandyopadhyay D, Nath S. Psychogenic purpura. *Indian J Psychiatry*. 2013;55(2):192-194.
- [35] Çelik-Göksoy Ş, Kılınçaslan A, Kaya İ. Psychogenic Purpura Successfully Treated with Antidepressant Therapy. Antidepressan Tedavi ile İyileşen Psikojenik Purpura. *Turk J Haematol*. 2017;34(3):274-275.
- [36] Dick MK, Klug MH, Gummadi PP, Klug LK, Huerter CJ. Gardner-Diamond Syndrome: A Psychodermatological Condition in the Setting of Immunodeficiency. *J Clin Aesthet Dermatol*. 2019;12(12):44-46.
- [37] Ratnoff OD. Psychogenic purpura (autoerythrocyte sensitization): an unsolved dilemma. *Am J Med*. 1989;87(3N):16N-21N.